



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/616,140

07/09/2003

Daniel J. Turk

3994994-144415

2080

23570

7590

07/27/2006

PORTER WRIGHT MORRIS & ARTHUR, LLP
INTELLECTUAL PROPERTY GROUP
41 SOUTH HIGH STREET
28TH FLOOR
COLUMBUS, OH 43215

EXAMINER

CHUNG, EUN HEE

ART UNIT

PAPER NUMBER

2123

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/616,140	TURK ET AL.	
	Examiner	Art Unit	
	Eun H. Chung	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-6 are presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Regarding claim 4, the phrase "approximately" in line 2 renders the claim indefinite because it is unclear what the limitation(s) refers.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3, 5, and 6 are rejected under 35 U.S.C. 102(e) as being anticipated by Faruque et al. (U.S. Pub. No 2003/0149500).

As per claim 1, Faruque et al. disclose a virtual white body modeling system integrating design and assembly information from pre-existing disparate sources involved in an enterprise

Art Unit: 2123

centric design process for a mechanical assembly (Abstract, Fig. 1, Paragraph [0027])

comprising:

an integrated system including a data library maintaining data files corresponding to a parts list (Fig. 1-4, Paragraph [0011]-[0013], [0021], [0030]-[0034]);

a network linking the data files to a work station of one or more than one member of the various groups within the enterprise involved in the design of a mechanical assembly (Fig. 1, paragraph [0011] and [0020]);

means in the work station for 1) selecting a part and the associated data file representing the physical properties of the part from one or more than one parts data lists maintained in the library (Fig. 1-4, Paragraph [0012], [0020], [0026], [0029]-[0038], and [0041]);

2) extracting one or more data file from the library associated with one or more part that is to be conjoined in an assembly with one or more other parts in the data file (Fig. 1-4E, Paragraph [0012], [0024], [0029]-[0038], and [0041]);

3) associating the parts and their data files in an assembly (Fig. 1-4E, Paragraph [0012], [0024], [0026], [0029]-[0038], and [0041]);

4) processing the selected parts through a mesh process (Fig. 1-4E, Paragraph [0012], [0023], [0026], [0029]-[0038], and [0041]);

5) saving the assembly mesh data in a database in the library (Fig. 1-4E, Paragraph [0012], [0023], [0026], [0029]-[0039], and [0041]);

6) building the assembly by associating mesh data with bond data relating to the manner in which conjoined parts are bonded in the assembly (Fig. 1-4E, Paragraph [0012], [0023], [0026], [0029]-[0039], and [0041]); and

7) translating the built assembly into a computer simulation format data record (Fig. 1-4E, Paragraph [0012], [0025], [0026], [0029]-[0038], and [0041]).

As per claim 2, Faruque et al. disclose the steps of conducting a computer simulation with respect to the assembly (Fig. 1-4E), refining the assembly in view of the simulation and updating the data associated with the assembly in the parts data list maintained in the library (Paragraph [0022], [0024], [0039]-[0040]).

As per claim 3, Faruque et al. disclose an association of material properties to the meshed parts to distinguish between different materials (Fig. 1-4E, Paragraph [0041]-[0045]).

As per claim 5, Faruque et al. disclose that the computer simulation format data record is accessed for evaluation with respect to one or more than one of crash impact, durability and noise (Fig. 1-4E, Paragraph [0021], [0025], [0033]).

As per claim 6, Faruque et al. disclose the data record for the assembly is modified after an evaluation (Fig. 1-4E, Paragraph [0013], [0048]-[0052]).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2123

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Faruque et al. (U.S. Pub. No 2003/0149500).

Faruque et al. teaches most all of the instant invention as applied to claims 1-3 and 5-6 above.

As per claim 4, Faruque et al. disclose the number of mesh elements recorded (Paragraph [0040]), except teaching a part of ranges from approximately 100 to approximately 100,000 or more.

It was known at the time the invention was made that the number of mesh elements recorded to simulated a part of ranges from approximately 100 to approximately 100,000 or more for system of interactively assembling a model. At the time the invention was made, it would have been obvious to one of ordinary skill in the art of technology of modeling and virtual evaluation system for mechanical assemblies to include the number of mesh elements recorded to simulate a part of ranges from approximately 100 to approximately 100,000 or more. The motivation would have been to ensure the quality and consistency of the assembled mesh model, which results in improved the analysis (Paragraph [0035]). Therefore it would have been obvious to modify Faruque et al. to obtain the invention as specified in claim 4.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamashita et al. disclose method for generating an analyzing mesh for a tree-dimensional area (US Patent No. 5,760,779).

Hanaki et al. disclose system for generating geometry of object associated with one of similar products, based on geometrical characteristic of the one product (US Patent No. 6,021,270).

Hazama et al. disclose method for managing and distributing design and manufacturing information throughout a sheet metal production facility (US Patent No. 6,212,441).

Itoh et al. disclose meshing method (US Patent No. 6,259,453).

Art Unit: 2123

Furuhata et al. disclose method for generating a mesh (US Patent No. 6,317,704).

Deguchi et al. disclose CAD analysis result data processing method (US Pub. No. 2003/0187625).


McCall, II et al. disclose method for interpreting design data and associating manufacturing information with the data and software (US Pub. No. 2003/0187625).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eun H. Chung whose telephone number is 571-272-2164. The examiner can normally be reached on 8:30am-5:00pm Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EHC


PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100 7/24/02